

## BACKGROUND

Informal carers are a valuable and integral part of the Canadian health care system and essential in keeping persons with dementia at home (Hollander et al, 2009). Despite the value of the care they provide and their susceptibility to the development of caregiver burden which can impair their ability to provide care, the needs of informal carers have been overlooked due to the lack of training for healthcare providers and paucity of evidence to guide practice.

Problem Solving Technique (PST) is a systematic approach to problem-solving shown to be effective in alleviating emotional distress and improving problem solving skills of carers looking after persons with a variety of conditions (Rivera et al 2008; Berry et al 2012). In the case of carers looking after family members with dementia, PST has the potential to provide carers with the same benefits. Community healthcare providers are uniquely positioned to provide training in PST methods where carers need it most: in the home.

The purpose of the current study was to evaluate the effectiveness of a PST training program when delivered to informal carers by case managers who have received advanced training in PST (i.e., using a train-the-trainer model) who were also providing case management for the carers' loved ones with dementia living in the community.

## HYPOTHESES

### Hypothesis 1

*By improving the ability to identify and define problems, caregivers assigned to receive PST will demonstrate improved task and emotional coping*

### Hypothesis 2

*Through a systematic approach to solution creation for identified problems, caregivers will demonstrate improved self-perceived competence and sense of mastery*

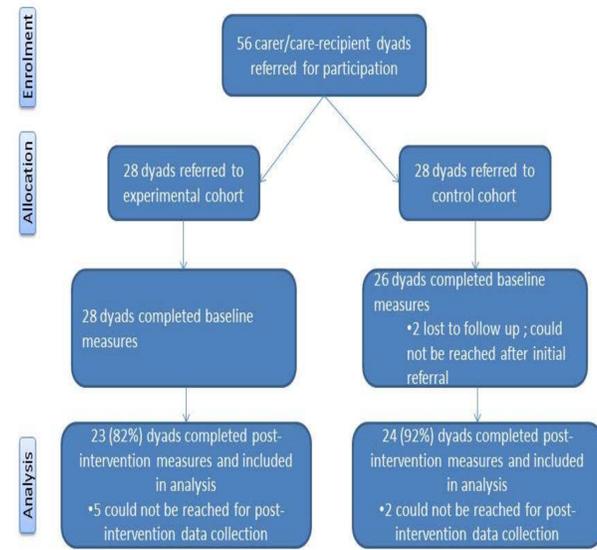
### Hypothesis 3

*As burden is highly associated with care recipient's physical condition and disease stage, neither group will demonstrate a change in burden*

### Hypothesis 4

*Caregivers assigned to receive PST will demonstrate reduced self-perceived stress*

## METHODS



Method of Assigning Priority Levels (MAPLe) scores derived by algorithms embedded in the Resident Assessment Instrument (RAI) were used to identify carers of "high risk" or "very high risk" family members. Potential study subjects were further vetted by case managers using the "Guideline for identifying vulnerable carers" developed at the Reitman Centre.

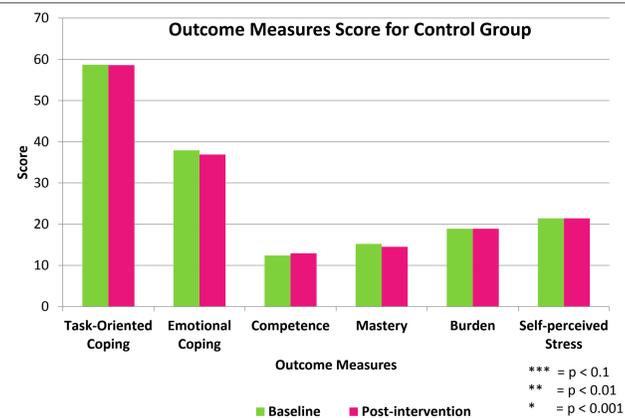
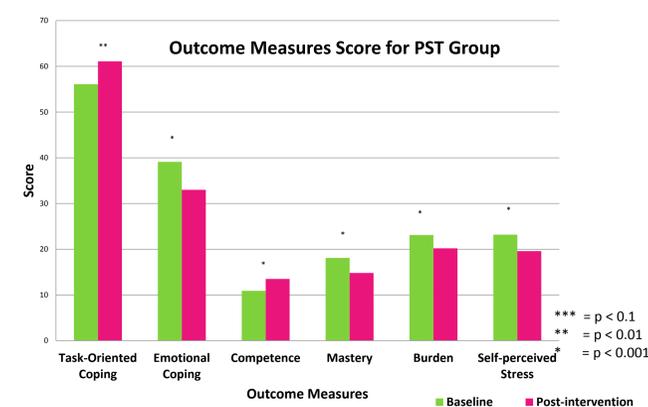
The study used a concurrent, matched cohort design. Main outcome measures for evaluating effectiveness of the PST intervention were:

- Coping Inventory for Stressful Situations (Endler and Parker)
- Mastery Scale (Pearlin)
- Caregiving Competency Scale (Pearlin)
- Perceived Stress Scale (Cohen)
- Zarit Burden Interview.

Independent evaluation of whether the PST intervention was implemented as intended completed by 2 raters not involved in delivery of the intervention. The Kappa statistic was used to determine inter-rater agreement.

Intention-to-treat analysis was utilized. Repeated measures ANOVA were conducted to test study hypotheses for two levels of the between-groups factor 'group' (PST vs. usual care) and two levels of the within-groups factor 'time' (baseline vs. post-intervention). Where significant interactions were detected, paired-samples t-tests were used for follow-up pair-wise comparisons. The Bonferroni correction was used to reduce the likelihood of type I error in interpreting the pair-wise comparisons.

## RESULTS



### Hypothesis 1\*:

- PST subjects showed a significant **INCREASE** in task coping score and a significant **DECREASE** in emotional coping score from baseline to post-intervention

- No changes detected in control group

### Hypothesis 2:

- PST subjects showed a significant **INCREASE** in competence score and a significant **DECREASE** in mastery score from baseline to post-intervention

- No changes detected in control group

### Hypothesis 3:

- PST subjects showed a significant **DECREASE** in burden from the beginning to the end of the intervention phase

- No change detected in control group

### Hypothesis 4:

- PST subjects showed a significant **REDUCTION** in stress from the beginning to the end of the intervention phase

- No change detected in control group

\*Detailed statistical analysis available upon request

## DISCUSSION & CONCLUSIONS

Family carers are the mainstay of dementia care and effective management of dementia requires a broader view incorporating both carer and their family member with dementia. In this project, carers were the primary focus of an intervention derived from PST and designed specifically to meet their needs.

It was demonstrated that:

- PST can be easily learned and delivered by CCs
- PST grounded visits were more effective than usual home visits in improving carers' sense of caregiving competence, increasing task- and reducing emotion-focused coping and reducing burden and stress
- Improving carers' skills in dementia care through the use of a PST intervention may reduce reliance on primary care and psychiatric services, and prevent premature dependence on institutional services.

It was also shown that:

- The establishment of effective partnerships between inter-professional groups and community agencies can extend the reach of the expertise of specialized health care institutions
- Such partnerships have the potential to produce effective and significant expansion of community-based services and resources, increased system capacity and the dissemination of a model of best practice
- The project incorporated key elements of a scalable, sustainable model readily adapted and disseminated to diverse groups of professionals, carers and persons with dementia with the potential to significantly expand system capacity for dementia care and contribute to sustained financial viability of the health care system.

The project had a number of limitations:

- Care recipients were not evaluated so it is not possible to state whether the development of carers' problem solving and other caregiving capacities meaningfully improved outcomes
- Carers found the number of outcome measures difficult. A more targeted package of measures is being developed
- This was a proof of concept pilot delivered in one location by professionals integral to its development and may be hard to replicate at other sites.

## REFERENCES

- Hollander, M., Liu, G., & Chappell, N. (2009). Who Cares and How Much? The Imputed Economic Contribution to the Canadian Healthcare System of Middle-Aged and Older Unpaid Caregivers Providing Care to the Elderly. *Healthcare Quarterly*, 12, 42-49.
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